Missouri Department of Natural Resources

Water Protection And Soil Conservation Division
Public Drinking Water Program

MODEL

Emergency Operating Plan
For Public Water Supplies

Damage Assessment - Forms

Wells	(Fill out one form for each well.)
Raw Water Intake	(Fill out one form for each intake.)
Water Treatment Plant	
Distribution System	
Pump Stations	(Fill out one form for each location.)
Storage Facilities	(Fill out one form for each location.)
River & Highway Crossings	(Fill out one form for each crossing.)
Piping and Valves	(Fill out one form for each location.)

DAMAGE ASSESSMENT

PWS _____
Well No. _____
Location _____
Date _____ Time _____
Well ____ is operational (no repairs needed)
____ needs repair but IS operational
____ is NOT operational
Trend (worsening, improving, etc.)_____

WELLS

(Fill out one form for each well.)

Person(s) doing the damage assessment: _____

After checking for safety, assess and describe damage to the following:

CIRCLE ONE:

OK NOT OK **ACCESSIBILITY** (Road damaged, washed out, or blocked by debris, ice or snow?)

OK NOT OK **SECURITY** (Check fences, gates, windows and doors for possible security breach. If intrusion has occurred, check for damage/contamination, contact local law enforcement, determine type of intrusion threat and respond according to crime/evidence at site. Water sampling and quality analysis may be required to check for contamination.)

OK NOT OK **POWER SUPPLY** (Check overhead lines, meter, transformer, etc.)

OK NOT OK **ELECTRICAL CONTROLS** (Check controls, telemetry, etc.)

OK NOT OK **PUMP** (Check controls, seals, alignment and oiler. Check for power surge damage, motor damage, tampering, etc.)

OK NOT OK **CASING** (Check sanitary seal, grout, well cap, vent tube damage, leaking, submerged, etc.)

OK NOT OK **CONTAMINATION / INFILTRATION** (Was well overtopped? Sand and/or silt in well? Has a security violation occurred? Have samples been sent to a lab? See Appendix E for well drilling contractors.)

OK NOT OK **WATER TRANSMISSION LINE** (Walk the line and look for signs of breaks, such as standing water, ground disturbance, pressure loss of line, etc.)

OK NOT OK **CONTROL VALVES AND AIR RELEASE / VACUUM VALVES** (Check for sand and/or silt clogging valves and breaks.)

Summarize repairs and corrective measures needed. Include crew persons involved in, date of and materials used for the repair.

Photos / videos were taken by: _____
(Document adjacent property for any future claims.)

Water quality was tested for bacteriological / chemical / nuclear contamination? (circle all that apply)

Date of samples: _____ Samples were sent to: _____

Location of samples: _____ See Appendix I for certified labs.

Additional Notes:

DAMAGE ASSESSMENT

RAW WATER INTAKE

(Fill out one form for each intake.)

PWS _____
Intake Location/Designation_____
_____
Date _____ Time _____
Intake ____ is operational (no repairs needed)
____ needs repair but IS operational
____ is NOT operational
Trend (worsening, improving, etc.)_____

Person(s) making the damage assessment: _____

After checking for safety, assess and describe damage to the following:

CIRCLE ONE:

OK NOT OK **ACCESSIBILITY** (Road damaged, washed out, or blocked by debris, ice or snow?)

OK NOT OK **SECURITY** (Check fences, gates, windows and doors for possible security breach. If intrusion has occurred, check for damage/contamination, contact local law enforcement, determine type of intrusion threat and respond according to crime/evidence at site. Water sampling and quality analysis may be required to check for contamination.)

OK NOT OK **POWER SUPPLY** (Check overhead lines, meter, manholes of buried lines, substation, etc.)

OK NOT OK **LIGHTING SYSTEMS** (Check controls, chemical feed pumps, telemetry, etc.)

OK NOT OK **VENTILATION SYSTEMS**

OK NOT OK **ELECTRICAL CONTROLS** (Check controls, chemical feed pumps, telemetry, etc.)

OK NOT OK **PUMP** (Check controls, motors for damage, power surge damage and concrete pad damage. Check pumps for debris, silt, sand, tampering, etc.)

OK NOT OK **BAR RACKS AND SCREENS** (Is debris caught against bar racks and screens? Does the cleaning mechanism work? Are the racks or screens twisted or bent?)

OK NOT OK **CONTAMINATION / INFILTRATION** (Can you see or smell anything like oil, pesticides, etc.? Has a security violation occurred? Have samples been sent to a lab?)

OK NOT OK **RAW WATER PIPELINE** (Walk the line and look for signs of breaks, such as standing water, ground disturbance, pressure loss of line, etc.)

OK NOT OK **CONTROL VALVES AND AIR RELEASE / VACUUM VALVES** (Check for sand and/or silt clogging valves and breaks.)

OK NOT OK **STRUCTURE** (Are the roof, walls and foundation stable or cracked? Do windows and doors open properly?)

OK NOT OK **RESERVOIR** (Check for seepage, cracks, embankment slump, leaks and landslides. Lower water level to reduce possibility of structural damage.)

Summarize repairs and corrective measures needed. Include crew persons involved in, date of and materials used for the repair.

Photos / videos were taken by: _____
(Document adjacent property for any future claims.)

Water quality was tested for bacteriological / chemical / nuclear contamination? (circle all that apply)

Date of samples: _____ Samples were sent to: _____

Location of samples: _____ See Appendix I for certified labs.

ADDITIONAL NOTES:

DAMAGE ASSESSMENT

WATER TREATMENT PLANT

PWS _____
Location _____
Date _____ Time _____
Plant ____ is operational (no repairs needed)
____ needs repair but IS operational
____ is NOT operational
Trend (worsening, improving, etc.)_____

Person(s) making the damage assessment: _____

After checking for safety, assess and describe damage to the following:

CIRCLE ONE:

OK NOT OK **ACCESSIBILITY** (Road damaged, washed out, or blocked by debris, ice or snow?)

OK NOT OK **SECURITY** (Check fences, gates, windows and doors for possible security breach. If intrusion has occurred, check for damage/contamination, contact local law enforcement, determine type of intrusion threat and respond according to crime/evidence at site. Water sampling and quality analysis may be required to check for contamination.)

OK NOT OK **POWER SUPPLY** (Check overhead lines, manholes of buried lines, meter, substation, etc.)

OK NOT OK **ELECTRICAL CONTROLS** (Check controls, telemetry, SCADA, etc.)

OK NOT OK **LIGHTING SYSTEMS**

OK NOT OK **VENTILATION SYSTEMS**

OK NOT OK **CHEMICAL FEED** (Check chemical quantity and quality, chemical feed pumps, damage to storage containers and tanks, chemical feed lines, controls, etc.)

OK NOT OK **YARD PIPING** (Look for signs of breaks such, as standing water, ground disturbance and pressure loss of line. Check manholes, valve boxes, entrances through building walls, etc.)

OK NOT OK **TREATMENT BASINS** (Check equipment, walls, baffles, troughs, drains, etc.)

OK NOT OK **FILTERS** (Check controls, media, piping, valves, etc.)

OK NOT OK **CLEARWELLS** (Check overflow, vent, structure, foundation, etc.)

OK NOT OK **FINISHED WATER PUMP STATION** (Check motor damage, power surge damage, concrete pad damage and tampering. Check pump controls, piping, etc.)

OK NOT OK **ADMINISTRATIVE OFFICES/LAB** (Are the walls, roof and foundation stable or cracked? List damage to records, computers, phones, two-way radios, lab and office equipment.)

Summarize repairs and corrective measures needed. Include crew persons involved in, date of and materials used for the repair.

Photos / videos were taken by: _____
(Document adjacent property for any future claims.)

Water quality was tested for bacteriological / chemical / nuclear contamination? (circle all that apply)

Date of samples: _____ Samples were sent to: _____

Location of samples: _____ See Appendix I for certified labs.

ADDITIONAL NOTES:

DAMAGE ASSESSMENT

DISTRIBUTION SYSTEM

PUMP STATIONS

(Fill out one form for each location.)

PWS _____
Pump Station_____
Date _____ Time_____
Pump Station ____ is operational (no repairs needed)
____ needs repair but IS operational
____ is NOT operational
Trend (worsening, improving, etc.)_____

Person(s) making the damage assessment: _____

After checking for safety, assess and describe damage to the following:

CIRCLE ONE:

OK NOT OK **ACCESSIBILITY** (Road damaged, washed out, or blocked by debris, ice or snow?)

OK NOT OK **SECURITY** (Check fire hydrants fences, gates, windows and doors for possible security breach. If intrusion has occurred, check for damage/contamination, contact local law enforcement, determine type of intrusion threat and respond according to crime/evidence at site. Water sampling and quality analysis may be required to check for contamination.)

OK NOT OK **POWER SUPPLY** (Check overhead lines, manholes of buried lines, meter, transformer, etc.)

OK NOT OK **ELECTRICAL CONTROLS** (Check controls, telemetry, etc.)

OK NOT OK **LIGHTING SYSTEMS**

OK NOT OK **PUMP(S)** (Check controls, motors for damage, power surge damage and concrete pad damage. Check pump control, piping, etc.)

OK NOT OK **STRUCTURE** (Are the walls, roof or foundation stable or cracked. Do windows and doors open properly?)

OK NOT OK **PIPELINE TO AND FROM STATION** (Walk the line and look for signs of breaks, such as ground disturbance, standing water, pressure loss of line, etc.)

OK NOT OK **CONTROL VALVES AND AIR RELEASE / VACUUM VALVES** (Check for clogging and breaks)

OK NOT OK **VENTILATION SYSTEM**

Summarize repairs and corrective measures needed. Include crew persons involved in, date of and materials used for the repair.

Photos / videos were taken by: _____
(Document adjacent property for any future claims.)

Additional Notes:

DAMAGE ASSESSMENT

DISTRIBUTION SYSTEM

STORAGE FACILITIES

(Fill out one form for each location.)

PWS _____
Storage Facility_____
Date _____
Time_____
Facility ____ is operational (no repairs needed)
____ needs repair but IS operational
____ is NOT operational
Trend (worsening, improving, etc.)_____

Person(s) making the damage assessment:

_____

After checking for safety, assess and describe damage to the following:

CIRCLE ONE:

OK NOT OK **ACCESSIBILITY** (Road damaged, washed out, or blocked by debris, ice or snow?)

OK NOT OK **SECURITY** (Check fire hydrants, fences, gates, windows and doors for possible security breach. If intrusion has occurred, check for damage/contamination, contact local law enforcement, determine type of intrusion threat and respond according to crime/evidence at site. Water sampling and quality analysis may be required to check for contamination.)

OK NOT OK **STRUCTURE** (Are the walls, roof and foundation stable or cracked? Check for soil failure, corrosion of wire wrap and collapse or buckling of supports.)

OK NOT OK **POWER SUPPLY** (Check overhead lines, manholes of buried lines, meter, transformer, etc.)

OK NOT OK **LIGHTING SYSTEMS**

OK NOT OK **TELEMETRY AND CONTROLS** (Check antennae, wiring, emergency communication equipment, etc.)

OK NOT **CONTAMINATION / INFILTRATION** (Was tank overtopped or did flood waters enter

OK through the overflow or vent? Has a security violation occurred? Have samples been sent to a lab?)

OK NOT OK **PIPELINE INTO FACILITY** (Walk the line and look for signs of breaks, such as ground disturbance, standing water, pressure loss of line, etc.)

OK NOT OK **CONTROL VALVES AND AIR RELEASE / VACUUM VALVES** (Check for clogging and breaks.)

OK NOT OK **VENTS, HATCHES, SCREENS** (Did debris or flood water enter and are they damaged?)

Storage Level Is _____Full _____% Full _____Empty

Summarize repairs and corrective measures needed. Include crew persons involved in, date of and materials used for the repair.

Photos / videos were taken by: _____
(Document adjacent property for any future claims.)

Water quality was tested for bacteriological / chemical / nuclear contamination? (circle all that apply)

Date of samples: _____ Samples were sent to: _____

Location of samples: _____ See Appendix I for certified labs.

Additional Notes:

DAMAGE ASSESSMENT

DISTRIBUTION SYSTEM

RIVER & HIGHWAY CROSSINGS

(Fill out one form for each crossing.)

PWS _____
Location _____
Date _____ Time_____
Crossing ____ is operational (no repairs needed)
____ needs repair but IS operational
____ is NOT operational
Trend (worsening, improving, etc.)_____

Person(s) doing the damage assessment: _____

After checking for safety, assess and describe damage to the following:

CIRCLE ONE:

OK NOT OK **ACCESSIBILITY** (Road damaged, washed out, or blocked by debris, ice or snow?)

OK NOT OK **PIPELINE** (Walk the line and look for signs of breaks, such as ground disturbance, standing water, pressure loss of line, etc.)

OK NOT OK **CASING** (Check for breaks, mis-alignment, submergence, etc.)

OK NOT OK **CROSSING** (Exposed and where?)

OK NOT OK **CONTAMINATION / INFILTRATION** (Has pipeline been isolated? How much of area lost had reduced pressure? Has a security violation occurred?)

OK NOT **CONTROL VALVES AND AIR RELEASE / VACUUM VALVES** (Check for clogging

OK and breaks.)

Is a temporary crossing needed? _____

How many people are affected? _____

How many service connections are affected? _____

Summarize repairs and corrective measures needed. Include crew persons involved in, date of and materials used for the repair.

Photos / videos were taken by: _____
(Document adjacent property for any future claims.)

Additional Notes:

DAMAGE ASSESSMENT

DISTRIBUTION SYSTEM

PIPING AND VALVES

(Fill out one form for each location.)

PWS _____
Location _____
Date _____ Time_____
Piping/ ____ is operational (no repairs needed)
Valves ____ needs repair but IS operational
____ is NOT operational
Trend (worsening, improving, etc.)_____

Person(s) doing the damage assessment: _____

After checking for safety, assess and describe damage to the following:

CIRCLE ONE:

OK NOT OK **ACCESSIBILITY** (Road damaged, washed out, or blocked by debris, ice or snow?)

OK NOT OK **SECURITY** (Check fire hydrants, manholes, hatches and locks for possible security reach. If intrusion has occurred, check for damage/contamination, contact local law enforcement, determine type of intrusion threat and respond according to crime/evidence at site. Water sampling and quality analysis may be required to check for contamination.)

OK NOT OK **CONTAMINATION / INFILTRATION** (Has pipeline been isolated? How much of area lost had reduced pressure? Has a security violation occurred?)

OK NOT OK **PIPELINE** (Walk the line and look for signs of breaks, such as ground disturbance, standing water, pressure loss of line, etc.)

OK NOT OK **SHUT OFF VALVES AND AIR RELEASE / VACUUM VALVES** (Check for clogging and breaks.)

Are temporary connections needed? _____

How many people are affected? _____

How many service connections are affected? _____

Summarize repairs and corrective measures needed. Include crew persons involved in, date of and materials used for the repair.

Photos / videos were taken by: _____
(Document adjacent property for any future claims.)

Additional Notes: